<u>The Tiny Champion Fighting Emerald Ash</u> <u>Borer</u>



Source: www.TurfMagazine.com



PPQ's EAB Biocontrol Program has released one or more parasitoid wasp species (red) in over 25% of the EAB-infested counties (yellow) in the U.S.

The <u>emerald ash borer</u> (EAB) biological control staff of the USDA's Plant Protection and Quarantine (PPQ) program have reared four stingless wasp species that are EAB natural enemies. Three attack EAB's larvae, and one attacks its eggs. The staff produce the wasps year-round and keep them in cold storage until spring. In mid-May, the staff began shipping wasps to program cooperators – state departments of agriculture, Native American tribes, universities, and environmental groups – for release.

"This release season we will send multiple shipments of one or more species to 150 release sites in EAB-infested states," said Supervisory Entomologist Ben Slager, who manages PPQ's EAB biocontrol rearing facility. "All four wasp species are amazing EAB hunters; however, researchers know the most about how effectively *Tetrastichus* attacks and kills EAB larvae, spreads, and protects ash sapling and young trees."



Tetrastichus-planipennisi on cereal.

Tetrastichus are comparable in size to an average mosquito. They hunt by feeling vibrations from larvae feeding under the bark. They use their ovipositor to pierce through the bark and lay multiple eggs inside the larvae. Their eggs hatch, feed, and eventually kill the larvae as the wasps complete their lifecycle and bore out of the tree ready to attack more larvae.

Since the start of the biocontrol program, PPQ has released about 8 million wasps in 30 infested states. Wasp offspring have been successfully recovered in 22 of the states, demonstrating that the wasps are reproducing, becoming established in the areas where they were released, and – more importantly – attacking and killing EAB.

The parasitoids are showing promise especially in terms of protecting young ash saplings. In 2019, USDA scientists teamed up with researchers from the University of Massachusetts to study the effects of the wasp biocontrol effort in Michigan and several northeastern states. They found that the wasps were killing 20% to 80% of EAB in ash trees up to 8" in diameter. Their study documented that more borers were being attacked by wasps, fewer EABs were attacking ash trees, and the ash trees were regenerating.

"In January 2021, PPQ removed the Federal domestic EAB quarantine regulations so we could devote our resources to biocontrol," Slager said. "I'm happy to say the biocontrol results from the field have been encouraging, but we certainly have a lot more work ahead of us." To view the full article on the USDA site, visit <u>here</u>.

Want to share pest control ideas with fellow lawn care and landscape professionals? Join the discussions in the <u>Pesticides & Herbicides Forum</u> at www.expired-link.com.